Letter For Electronic Distribution

Original signed letter on file at the following address:

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April 12, 2000

Mr. John Dirickson, P.E.
Environmental Engineer
Naval Air Station, Fallon
Public Works Department
Environmental Division-Code 187JD
4755 Pasture Rd.
Fallon, NV 89496

RE: NDEP Response to Site 19, Post World War II Burial Site
Draft Final Decision Document, August 27, 1999, Sites 4, 7, 9, 10, 11, 12, 17, 18, 19, 23, and 24
Remedial Investigation/Feasibility Study
Naval Air Station Fallon

Dear Mr. Dirickson:

Nevada Division of Environmental Protection (NDEP) staff has reviewed NAS Fallon's Report entitled *Decision Document, Sites 4, 7, 9, 10, 11, 12, 17, 18, 19, 23, and 24, Draft Final,* dated August 27, 1999. This report was prepared in response to a series of NDEP letters which commented on NAS Fallon's report entitled *Record of Decision, Sites 4, 5, 7, 8, 9, 10, 11, 15, 17, 18, 19, 23, 24, 25, 26, 27 Naval Air Station Fallon* (ROD), dated June 5, 1998. Due to significant changes between the Draft Final Decision Document and the Record of Decision, the referenced Draft Final Decision Document was reviewed as a draft document instead of a draft final. NDEP's comments on Site 19, Post World War II Burial Site, are addressed in this letter.

The level of detail and explanation presented in the Draft Final Decision Document does not appear to adequately explain the nature and extent of soil and groundwater contamination associated with Site 19. Based on NDEP's review of site conditions and supporting documentation to verify information provided in the Draft Final Decision Document, the NDEP remains concerned that significant data gaps remain. In particular, potential contaminant sources which may be associated with Site 19 were identified after the Remedial Investigation (RI) Report was completed (September 1994), but do not appear to have been adequately investigated. These sources include the area near monitoring well MW77 and the AST to AST fuel distribution system. Other potential contaminant sources identified during the Remedial Investigation/Feasibility Study (RI/FS), including the areas where geophysical anomalies were identified and contaminated groundwater test holes, do not appear to have been investigated. In general, significant amounts of data collected from Site 19 do not appear to have been integrated into the final analysis of site conditions, and the potential for contaminants from Site 19 to migrate off-base into surface waters of the Lower Diagonal Drain remains

unknown.

This document needs to be available to the public for review, as appropriate, and an accurate record in the Decision Document is required so that an informed decision can be made. The Decision Document needs to include sufficient information regarding the Site 19 investigation so that the reader who is not familiar with the site can understand the extent of investigation activities. Accordingly, the Decision Document needs to include a description of all site characterization work performed after the RI Report was completed, the location of the AST to AST distribution system, a description of the contaminated groundwater test holes, a description of the geophysical anomaly which may represent a contaminant plume, the potential for contaminants to migrate off base into surface waters, etc. The public needs to understand that contaminant sources at Site 19 may not have been fully investigated, and that the types of debris buried at Site 19 landfill remain unknown. Drawings in the Decision Document need to identify the potential source areas and the estimated limits of contamination. It is also important that contaminant plumes be prepared for specific contaminants, instead of combining all contaminants into one generic plume. All previous conclusions and interpretations that may be related to Site 19 need to be summarized in the Decision Document. These issues are discussed further in the comments attached to this letter.

Formal approval of a "No Further Action" Decision Document is based on the extent of the investigation and remediation, an understanding of the nature and extent of contamination, documentation in the administrative record, and post closure care which includes institutional controls, land use restrictions, and/or post-closure monitoring. The NDEP is concerned that contamination associated with Site 19 could be more extensive than presented in the Draft Final Decision Document. Also, total petroleum hydrocarbon (TPH) concentrations in soil at Site 19 exceeded the State action level of 100 mg/kg; however, these soils were not remediated or addressed in accordance with State regulations. Of considerable concern to the NDEP is that documentation to support the "No Further Action" recommendation in the RI Report does not appear to be included in the administrative record. In a letter dated February 10, 1999, the NDEP requested that supporting documentation (including screening results for soil samples collected from MW29 and MW30, the screening methodology, laboratory analytical reports, and the RI/FS Sampling and Analysis Plan) be provided to the NDEP. These documents have not been provided. In consideration of these factors, the NDEP cannot concur with "No Further Action" at this time.

NAS Fallon needs to prepare a proposed plan of action to re-evaluate RI/FS activities at Site 19. The plan of action needs to be submitted to the NDEP for review and concurrence, and needs to address 1) an assessment of all possible sources of contamination, and submittal of drawings showing contaminant plumes, 2) how State landfill closure requirements will be achieved, 3) post-closure monitoring that demonstrates a lack of contaminant migration from Site 19, and 4) contingency plans for site remediation in case if significant groundwater contamination is detected during monitoring. The plan of action also needs to address NDEP's comments on the Draft Final Decision Document for Site 19 which are attached to this letter. NAS Fallon has not responded to many of NDEP's comments presented in the letter dated February 10, 1999. Comments in that letter which were not addressed in the Draft Final Decision Document are reiterated in the comments attached to this letter.

Since many of the issues regarding Site 19 have been on-going and unresolved for an extended period of time, please provide a time frame for addressing the comments in this letter within 30 days. If we as project managers cannot agree on a process to a resolve these issues, the NDEP will need to initiate the dispute resolution process. If you have any questions, or need further clarification, please do not hesitate to contact me at (775) 687-4670, extension 3053.

Sincerely,

Jeffrey J. Johnson, P.E.
Geological Engineer
Bureau of Federal Facilities

JJJ/js

cc:
Douglas Bonham, NAS Fallon
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COMMENTS ON THE DRAFT FINAL DECISION DOCUMENT
SITE 19, POST WORLD WAR II BURIAL SITE

1. Page 1, third paragraph: The Draft Final Decision Document states: *" The decision not to undertake a remedial action for this site is consistent with the factors set forth in the National Contingency Plan (NCP) 40 CFR part 300, and Nevada Administrative Code (NAC) Sections 444.570 through 444.7499 and 445A.226 through 445A.22755. This decision was based on one or more of the following"* (three bulleted reasons follow).

   The NDEP cannot concur with the above statement for the following reasons:

   - Contamination was detected in the drainage canal adjacent to Site 19 and in monitoring wells drilled adjacent to Site 19. Therefore, the statement after the second bullet appears to be inaccurate. Also, the decision not to implement remedial action, or not to provide an A through K analysis pursuant to 445A.227, is not consistent with NAC 445A.226 through 445A.22755. See comments **4, 7, 8** and **13**.

   - Site 19, which is a landfill, has not been closed in accordance with NAC 444.570 through 444.7499. NAS Fallon needs to address how Site 19 can be closed in accordance with the regulations. Due to the age of the landfill, the NDEP may waive some landfill closure requirements. See comment **13**.

   - The RI Report states that cancer risks from future use were well above the point of concern. Also, the risk assessment for Site 19 did not address contamination that was discovered after the RI Report was completed. Therefore, the statements after the first and third bullets do not appear to be accurate. See comment **10**.

   - Supporting documentation appears to be missing from the administrative record. See comments **7A** and **15.** Therefore, NAS Fallon does not appear to be in full compliance with 40 CFR Part 300, Subpart I: Administrative Record for Selection of Response Action.

2. Page 1, last paragraph in Section I: The Draft Final Decision Document states: "*The Nevada Division of Environmental Protection (NDEP) has reviewed this document and concurred with this decision. There are not any nationally significant or precedent setting issues for this site.*"

The NDEP concurrence with "No Further Action" for this site in the letter dated May 17, 1994 was based on the assumption that reasonably supporting documentation would be formally presented to the NDEP. However, numerous issues which are detailed in the comments in this letter have not been acceptably supported by documentation. Concurrence with No Further Action was also provided before additional information regarding sources of contamination were provided (see comments **7** and **8**). Accordingly, the NDEP's previous concurrence with a "No Further Action" determination is no longer valid. NAS Fallon needs to prepare a proposed plan of action to re-evaluate RI/FS activities at Site 19. See comments **12** and **13**.

3. Page 2, Section A, last paragraph: "*The RI Report recommended 14 of the remaining 21 IR Program sites,* (including) *Site 19 World War II Burial Site for "No Further Action". ... No soil contamination was found in relation to the activities at Site 19 and the source of the groundwater contamination below the site is from the dissolved plume from the up gradient Site 16, Old Fuel Farm. The groundwater remediation will be accomplished as part of the Site 16 remedial action."*

   The NDEP does not concur with the second sentence in the above statement. TPH concentrations, which exceeded the State Action level of 100 mg/kg, were identified in the drainage canal adjacent to Site 19. Also, a review of RI/FS data to verify information presented in the Draft Final Decision Document indicate that potential sources of contamination located within Site 19 have not been fully investigated. Data and conclusions presented after the RI Report was completed indicate that high TPH concentrations may be present in the subsurface near the west end of Site 19. See comments **7** and **8.**

4. Pages 2 and 3, Section 1.2 Geology: The Draft Final Decision Document does not address site-specific geological information for Site 19. However, site-specific geologic information for Site 19 was provided in the RI Report. Monitoring Wells MW29 and MW30 were drilled on the eastern edge of Site 19. Based on the boring logs provided in Appendix F of the RI Report, soils in MW29 above the water table (approximately 7.5 feet below ground surface) consisted of sand. Sand and sandy silt were logged in MW30. Piezometer PZ16-1 was also installed on the east edge of Site 19, north of MW30. Soils in PZ16-1 were described as fine to medium grained sand. Soils at Site 19 appear to contain more sand (thus, a higher hydraulic conductivity) than presented in the Draft Final Decision Document. Information presented in the Decision Document needs to be consistent with RI/FS data.

   Additional lithologic information was collected after the remedial investigation. Monitoring well MW77 was installed just to the west of Site 19 during March 1996 (distance unknown). The boring log for this well shows silty sand and sand (medium grained) from the ground surface to the water table. The water table was located at 5.0 feet below ground surface. TPH concentrations in soil samples collected from MW77 were as high as 7,200 mg/kg (January 1997 Semi-Annual Progress Report). This information was not available for the RI Report, but needs to be included in the Decision Document. In the Comparison of Groundwater Alternatives (CGA) Report dated December 1997, the area around MW77 was identified as a source for TPH contamination in groundwater. This information needs to be included in the Decision Document.

5. Page 5, Section F, last paragraph: The Draft Final Decision Document states "*The Draft Decision Document for 11 sites including Site 19 will be published in the Lahontan Valley News and the Fallon Eagle Standard. These community participation activities fulfill the requirements of the CERCLA: Section 113(k)(2)(B)(I-v) and 117(a)(2). The Administration Record is available for review at the Churchill County Library."*

   Based on Appendix A in the Draft Final Decision Document (Administrative Record), the documents

listed below were not included in the administrative record. These documents should be listed because they contain data, factual information, and analyses that form the basis for the selection of the response action.

- Screening results for soil samples collected from MW29 and MW30, and the screening methodology.
- Laboratory analytical reports.
- Progress reports that included data or interpretations for Site 19.

6. Page 6, Section III. Investigation Summary: The Draft Final Decision Document states "*The Phase II RI for Group IV Sites consisted of conducting 2 geophysical surveys, 29 soil borings, 202 groundwater test borings, 25 monitoring wells, and 9 piezometers. Most of these investigations were conducted to evaluate the dissolved and free product plumes on Site 14 and 16.*"

Most of these activities cannot be used to evaluate the nature and extent of contamination at Site 19. Those activities pertinent to Site 19 should be described in this section. For Site 19, onsite investigation activities during the RI/FS included installing 2 monitoring wells, 1 piezometer, 12 groundwater test borings, and 1 geophysical survey.

7A. Page 6, Section A. Vadose Zone and Soil: The Draft Final Decision Document states*: "During the first iteration of Phase II RI, soil samples from Site 19 were screened during the installation of two down gradient monitoring wells, MW29 and MW30. Screening of soils from MW29U indicated no vadose zone contamination at the site; however, slightly contaminated soil was indicated at the water table (LBPHCs at 8.0 mg/kg). No contaminants were detected in vadose zone soils from MW30.*

Two soil samples were collected from monitoring wells MW29 and MW30, one sample from each well. The soil sample collected from MW29 may have been collected below the water table based on groundwater elevation data presented in Volume II of the RI Report. The lack of contamination in these two soil samples does not verify the lack of soil contamination in the remaining portions of Site 19. Based on data presented after the RI Report was completed, the NDEP is concerned that soil contamination could exist near the west side of Site 19 or from other unknown sources that exist south of Site 16, possibly extending into Site 19. Potential sources of contamination are discussed below.

Investigation activities performed in the vicinity of Site 19 after the RI Report was completed were not described in the Draft Final Decision Document. These activities, which include the installation of monitoring wells MW77, MW78 and MW79, need to be presented in the Decision Document. These wells were installed during March 1996, but are not shown on the drawings in the Draft Final Decision Document. Of particular concern is MW77 because significant contamination was detected in this well. Based on drawings presented in the January 1997 Semi-Annual Progress Report (page 97), MW77 may be located on the west edge of Site 19, just north of Site 10 (GATOR Compound). Analytical results for soil and groundwater samples collected from MW77 indicated TPH concentrations of 7,200 mg/kg in soil and 26 mg/l in groundwater (January 1997 Semi-Annual Report). MW77 is shown as a source of TPH contamination (which is **not** associated with Site 16) in the January 1997 Semi-Annual Progress Report and in the 1997 CGA Report (page 2-137). This information needs to be included in the Decision Document.

Supporting documentation that verifies screening results for soil samples collected from MW29 and MW30, and the screening methodology, needs to be provided to the NDEP.

7B. Page 6, Section A. Vadose Zone and Soil The Draft Final Decision Document states *"The results*

indicate that the Site 16 contaminated groundwater plume may be in contact with the drainage ditch...The groundwater contamination below Site 19 is contiguous with the dissolved contaminant plume originating from Site 16 fuel distribution system or the AST to AST fuel distribution system used in the 1960's."

The above statement needs to be clarified with an analysis that is supported by drawings that contain all site information. The word *contiguous* implies that two groundwater plumes exist, one from Site 16 and one from Site 19. The NDEP concurs that more than one source of groundwater contamination exists. Based on data collected from MW77 and contaminated groundwater test holes, a source of contamination appears to be located near the west side of Site 19. The existence of more than one source of contamination is supported by conclusions presented in the January 1997 Semi-Annual Progress Report. Page 94 of this report states:

"*..... GTI 16-1 and particularly MW77, showed relatively high TPH-E concentrations. A source of TPH-E appears to exists in this general area of elevated concentrations, and is further discussed below.*"

"*Recently, diesel was discovered on the groundwater during the removal of an approximate 500 gallon AST (and the associated free product/soil) near Building 413, located upgradient of MW65. Also, it is suspected that PVC pipes (with possible leaks) were historically used to convey diesel fuel further south (and possible in other directions) from an approximate 8,000 gallon AST situated adjacent to Building 419 (i.e., upgradient of GTI 16-1 and MW77) at Site 16. These may serve as potential sources of dissolved petroleum hydrocarbon (TPH-E) contamination of the groundwater. The presence of a diesel source area downgradient of the Old Fuel Farm is further substantiated by the transition from dissolved GRO in MW25U, to GRO and DRO in MW65, to DRO in GTI 16-1, MW77, and MW26. TPH-E (DRO) was also detected in the aquifer soils at MW77 (see Table 9-4). Note, however, that recent monitoring has not shown measurable free product in monitoring wells MW77 and GTI 16-1*"

The above statement provides convincing data to support the existence of a source of soil and groundwater contamination near the west side of Site 19. The extent of contamination in this area was not investigated. This information needs to be discussed in the Decision Document.

TPH contamination in the drainage canal, just to the east of Site 19, contains diesel range organics (DRO) and gasoline range organics (GRO). However, it is unclear where the GRO contaminants in the drainage canal samples originated. The extent of GRO from Site 16 is illustrated on page 96 of the January 1997 Semi Annual Report and shows that the southern limit of the GRO plume from Site 16 lays well north of Site 19. It appears that a second source of GRO contamination may be associated with Site 19. To demonstrate contaminant source areas and the extent of groundwater contamination, separate plume drawings that show GRO concentrations and DRO concentrations need to be presented in the Decision Document, similar to the drawing on page 2-137 of the CGA Report which shows TPH-E concentrations (equivalent to DRO).

An AST to AST duel distribution system is discussed in the Draft Final Decision Document. This is the first time NDEP has been informed of the AST to AST fuel distribution system, and it is unclear where the AST to AST fuel distribution system is located. The fuel storage tanks at Site 16 (Old Fuel Farm Area) were underground storage tanks (USTs), not ASTs. It is unclear if the AST to AST fuel distribution system is the same fuel distribution system described on page 94 of the January 1997 Semi-Annual Progress Report. This system was described as extending south of Building 419. Building 419

is located approximately 450 feet south of Site 16 (page 3-18 of the PA/SI Report), and approximately 350 feet northwest of Site 19. It appears the source of TPH contamination at the Group IV Sites is unknown, but could include a number of areas including the former USTs at Site 16, the AST at Building 419, leaking underground PVC pipes (possibly the AST to AST fuel distribution system), or perhaps other ASTs. These sources are scattered over a large area and could perhaps include Site 19.

A better understanding of contaminant sources and the extent of contamination associated with Sites 16 and 19 is required. NAS Fallon must prepare updated drawings which show: **1)** all data, including data collected after the RI Report was completed; **2)** TPH concentration contours for GRO and DRO; **3)** known and potential contaminant sources; **4)** the AST to AST fuel distribution system for Site 16; and **5)** the fuel distribution system that extends south of Building 419. Drawings that show geophysical anomalies that may correlate with contaminant plumes or indicate the presence of trenches also need to be presented.

8. Page 7, Section B, Groundwater, first paragraph: The Draft Final Decision Document states *"The source area for PHC related contamination detected in MW29U was Site 16, Old Fuel Farm or the AST to AST fuel distribution system used in the 1960's. See Figure 6 for groundwater plume.*

Based on the above discussion, the NDEP cannot concur with the above statement. The groundwater investigation at Site 19 was very limited and does not verify that contamination does not exists. Several concerns regarding groundwater contamination at Site 19 were presented by the NDEP in a letter dated February 10, 1999. These concerns are reiterated below.

Based on the RI Work Plan dated August 1989 (page I-79), EM and magnetic geophysical surveys were to be conducted during the remedial investigation over site 19 to locate buried equipment, and a map would be provided so that applicable land use restrictions can be recommended. The surveys were also performed to help guide the selection of monitoring well locations (Appendix B, page B-1). Results of the surveys are provided in Appendix B of the RI Report and indicate that a possible contaminant source may exist in the southern portion of Site 19. The RI Report states on page B-10 *"One slight low-conductivity anomaly appears to trend from northwest to southeast across the south half of the area in the vicinity of the contaminant-plume discharge area delineated by ground water test hole mapping. It is difficult to say if this anomaly is related to the contaminant plume"*. Site 19 contains a landfill with unknown contents and it may be possible that this anomaly is associated with landfill debris which may be a source of contamination. The PA/SI Report, which predates the remedial investigation, recommended that a monitoring well be installed within the southern portion Site 19. Based on drawings provided in the Draft Final Decision Document, it does not appear that the anomaly was further investigated or that a monitoring well was installed in the southern half of Site 19. In the letter dated February 10, 1999, the NDEP requested that this issue be discussed in the Decision Document, and that the geophysical survey maps with recommendations for land use restrictions be provided. NAS Fallon has not yet responded to these comments. The above issues need to be addressed in the Decision Document.

During the RI/FS, groundwater test holes were drilled to evaluate the presence of groundwater contamination and to select locations for groundwater monitoring wells. Several groundwater test holes were drilled inside the northern portion of Site 19. Based on Figure 4 in the Draft Final Decision Document, contamination was identified in most of the holes. These holes also appear to be near the location of MW77. Monitoring wells were not installed in the northern half of Site 19 to investigation contamination associated with these test holes. In a letter dated February 10, 1999, the NDEP requested that this issue be discussed in the Decision Document. NAS Fallon has not yet responded to

these comments. This issue needs to be discussed in the Decision Document.

An additional factor that needs to be considered before Site 19 can be closed is the possible off-base migration of contaminants from Site 19 to surface waters in the adjacent drainage canal. The Preliminary Site Characterization (PSC) Summary dated January 1992 states on page 156 "*The downgradient edge of the plume (southeastern corner) affords a potential seepage discharge source into the unnamed drainage channel separating Site 9, Wastewater Treatment Plant and the study area*". Considering that Site 19 is close to the drainage canals, it is critical that a proper investigation be performed. Groundwater samples were collected from MW29 and MW30 on two occasions: April 1991 and August 1991. This is not considered an adequate number of samples to conclude that groundwater contamination is not present at Site 19 when considering the lack of investigation work completed at the potential contaminant sources discussed in the preceding paragraphs. The Decision Document needs to address these issues and discuss the risks associated with contaminants migrating off base.

9. Page 7, Section B, Groundwater, second paragraph: The Draft Final Decision Document states "*The bail tests from monitoring wells MW26, MW27, MW28, MW29 and MW30 ranged from 0.2 to 12.0 feet/day. Combining the gradient of 0.002 ft across Site 19 and assuming 33% porosity the resulting calculated groundwater velocity ranges from 0.4 to 26.5 ft/year*."

Bail tests provide qualitative hydraulic conductivity data, and are less reliable than hydraulic conductivity data collected from pumping tests. At NAS Fallon, bail tests have generally underestimated hydraulic conductivities. The RI report states on page E-16 "*The results of the pumping tests indicate K values 5 to 125 times higher than the bail-test values. The bail-test data are considered strictly qualitative and yield a relative number for each location*". As stated on page 8 of the Draft Final Decision Document for Site 4, bail tests can yield hydraulic conductivities lower than the aquifer due to the "skin effect" which may also be more characteristic of the sand pack placed in the well instead of the aquifer. A realistic hydraulic conductivity value for Site 19 may yield a much higher groundwater velocity than 0.4 to 26.5 feet/year. This is important information for evaluating contaminant migration. The unnamed drainage canal is located only a few feet from Site 19, and flow from this canal discharges directly into the Lower Diagonal Drain where surface waters may become contaminated. This information should be included in the Decision Document

10. Page 7, Section C, Risk Assessment Summary: The Draft Final Decision Document states "*A quantitative risk assessment for Site 19 soils was not conducted due to the absence of contamination. But the groundwater contamination below Site 19 is related with the dissolved contaminant plume originating from Site 16, Old Fuel Farm or the AST to AST fuel distribution system used in the 1960's.*

The NDEP does not concur with the above statement. As discussed previously in this letter, several potential sources for contaminated soil and groundwater at Site 19 do not appear to have been investigated. Data collected at and near Site 19 indicate that Site 16 is not the sole source of contamination at Site 19. It should also be noted that a risk assessment was not performed to address the high TPH concentration identified in MW77. See comments **7** and **8**.

The Draft Final Decision Document continues to summarize the risk assessment as follows:

The risk assessment for the Site 16 plume indicated no current human exposure, thus no current risk, from the ground water (ASG 1994). Cancer risks from future use, off base scenario (non-

consumptive use only) were above the point of concern. The HI for non-carcinogenic effects for the scenario was also well above the point of concern. The inhalation of volatile compounds during household activities contributes 97% and 90% of the risk and HI respectively. The critical values for phytotoxicity were also exceeded for certain ground-water contaminants. (ORNL 94(I))"

The Draft Final Decision Document subsequently states in Appendix C (page C-19) "*This site is not considered a potential human health or ecological risk as concluded in the RI.*" In view of the above language, and the fact that potential contaminant sources at Site 19 were not investigated, the risk associated with Site 19 does not appear to be acceptable. NAS Fallon needs to address these issues; an updated risk assessment for Site 19 may be warranted. NAS Fallon needs to explain their conclusion presented on page C-19 in Appendix C.

11. Page 7, Section D, Conclusion: The Draft Final Decision Document states "*No soil contamination was detected from samples collected at Site 19. Ground-water contamination beneath the site is related to the up gradient Site 16, Old Fuel Farm or the AST to AST fuel distribution system used in the 1960's. This dissolved phase plume will be remediated and monitored as necessary as part of the Site 16 remedial action. There are no known sources of contamination due to the Site 19, Post World War II Burial Site activities."*

    The NDEP does not concur with the conclusions or proposed actions described above. See comments **7** and **8**.

12. Page 7, Section IV, Proposed Action: The Draft Final Decision Document states "*No soil contamination was detected in the vadose zone during the investigation of the Site 19, Post World War II Burial Site. The ground water contamination below Site 19 is contiguous with the dissolved contaminant plume originating from Site 16 fuel distribution system. The Site 16, source mitigation will be accomplished by the remedial action at, the Old Fuel Farm tanks. Based on this conclusion, the remedial decision for Site 19, Post World War II Burial Site is No Further Action."*

    See comments **7** and **8**.

    In the same section, the Draft Final Decision Document states "*NDEP letters dated 17 May 1994 and 21 August 1997 recommended a No Further Action document be prepared for Site 19*". This statement does not appear to be accurate for the August 21, 1997 letter. NDEP's comments in both letters are presented below.

    - NDEP's letter dated May 17, 1994 states "*The Division concurs with the recommendation of no further investigative or remedial actions at Site 19* ***at this time****. The contaminated groundwater beneath the site will be addressed during remedial actions at Site 16. Upon compliance with community relations requirements, please prepare a ROD for this site*"

    - NDEP's letter dated August 21, 1997 states "*When land use restrictions have been placed in base land use planning documents, a decision document can be prepared for the site. The decision document must include a description of the "soil containment pad" operations. Groundwater monitoring at site 16 covers this site."*

    The August 21, 1997 letter did not recommend a "No Further Action" decision document for Site 19. The May 17, 1994 letter concurred with "No Further Action" **at this time**. However, subsequent

information supports additional evaluation. Based on data and interpretations provided to the NDEP after the letter dated May 17, 1994, sources of contamination may be associated with Site 19. These sources do not appear to have been investigated. It also appears that contaminant anomalies identified during the RI/FS were not investigated and State landfill closure requirements were not addressed. Accordingly, the NDEP's previous concurrence with "No Further Action" for Site 19 is no longer considered valid. NAS Fallon needs to prepare a proposed plan of action to re-evaluate RI/FS activities at Site 19. The plan of action needs to be submitted to the NDEP for review. See comment **13** below.

13. Page 8, Section V, Future Activity at Site 19: NAS Fallon has stated that administrative controls will be imposed on Site 19. Administrative controls are subject to future audit.

TPH concentrations above the state action level of 100 mg/kg have been identified at Site 19 in the drainage canal, and may also exist near the location of MW77. Therefore, information pursuant to NAC 445A.227 (A-K) must be submitted to the NDEP for approval if NAS Fallon desires to close this site without remediation. If the NDEP does not approve the A-K analysis (which is a likely scenario for Site 19 unless additional site characterization data are collected), then NAS Fallon has the option of pursuing site closure in accordance with NAC 445A.22705. This regulation states the site can be evaluated, based on the risk it poses to public health and the environment, to determine the necessary remediation standards. Such an evaluation must be conducted using ASTM Method E1739-95, or an equivalent method. All supporting documentation, including assumptions and calculations, need to be provided to the NDEP for review.

As stated in comment **12** above, NAS Fallon needs to prepare a proposed plan of action to re-evaluate RI/FS activities at Site 19 and to close Site 19. The plan of action needs to be submitted to the NDEP for review and needs to include the following elements:

- An assessment of all possible sources of contamination, and submittal of drawings showing contaminant plumes.

- How State landfill closure requirements will be achieved. (Due to the age of the landfill, some closure requirements may be waived).

- Post-closure monitoring that demonstrates a lack of contaminant migration from Site 19. Post-closure monitoring must be specific for Site 19 and address the potential contaminants of concern that were identified during the RI/FS and the PA/SI (e.g. TPH as gasoline, TPH as diesel, VOCs, SVOCs, and priority pollutant metals).

- Contingency plans for site remediation in case if significant groundwater contamination is detected during monitoring (see NDEP's letter dated September 25, 1995).

Post-closure monitoring requirements and associated long-term costs can be reduced if additional characterization work is completed to evaluate the nature and extent of soil and groundwater contamination associated with Site 19.

14. Page 8, Section VI, Recommendations: The Draft Final Decision Document states "*This decision document represents the selection of a no action alternative and subsequent closure for Site 19 at NAS Fallon, Fallon, Nevada. The no action alternative was developed in accordance with CERCLA as amended and is consistent with the NCP. This decision is supported by the documents in the*

administrative record for the site."

The NDEP does not concur with the above statement for the reasons provided in this letter.

15. NAS Fallon needs to address all comments in NDEP's February 10, 1999 letter for Site 19. Comments which need to be addressed, but have not been completely discussed above include the following:

Item 3 in NDEP's February 10, 1999 letter
Information or data that are used to support the "No Further Action" recommendation must be backed up with supporting documentation. Documentation does not need to be provided with the Decision Document, but needs to be present in NDEP's files. Supporting documentation missing from the NDEP's files for Site 19 are listed below.

- Screening results for soil samples collected from MW29 and MW30, and the screening methodology.
- Laboratory analytical reports.
- Sampling and Analysis Plan for the RI/FS (Volume III of the RI/FS Work Plan).

NAS Fallon needs to provide the supporting documentation, or state the supporting documentation does not exist and is not included in the Administrative Record.

NDEP requested that metal concentrations in soil and groundwater at Site 19 be compared with background metal concentrations, and that a drawing which shows where background samples were collected be provided. The Draft Final Decision Document responds by stating on page C-18 "*Comparison of metal concentrations to background metal concentrations will not be provided since metals are not the contaminants of concern at the site."* Metals were determined to be potential contaminants at Site 19. The PA/SI Report recommended on page 3-21 that priority pollutant metals be analyzed in samples collected from Site 19. The RI Report states on page 10-5 "*Wastes reportedly deposited included trash, vehicles, wood, paints, thinners, and solvents*". Based on this description, metals are a contaminant of concern (COC). During the RI/FS, eight soil samples from Site 16 (which included Site 19 soil samples based on page 10-39 of the RI Report) were analyzed for metals. Results of the metal analyses do not appear to have been compared to the ARARs or discussed in the RI Report. The Decision Document needs to explain why metals are no longer contaminants of concern by comparing metal concentrations to the ARARs and/or background concentrations.

In a letter dated September 25, 1995, under Site 19 Post WWII Burial Site, NDEP states "*At the southeast edge of the site, there is a concrete pad covered with approximately 300 cubic yards of soil. Source of soil unknown. Please collect analytical samples to characterize this soil. .... Closure proposals must address soil on the concrete pad, land use restrictions, long-term monitoring of total petroleum hydrocarbons detected in groundwater during the Remedial Investigation, and a contingency plan for groundwater remediation*". In a letter dated November 22, 1995, the Navy responded to the issue regarding contaminated soil on the concrete pad by stating "*This soil is not part of the IRP. Forthcoming Underground Storage Tank Reports will discuss the soil rather than the Site 19 Decision Document"*. The NDEP reiterated in a letter dated August 21, 1997 that a description of the soil containment pad operations must be included in the Decision Document, and that land use restrictions must be placed in base land use planning documents. The Decision Document for Site 19 needs to address stockpiling and treatment operations for contaminated soil at Site 19, and the Navy's future plans for using this site to treat contaminated soil.